

Amendments to the Claims

This listing will replace all prior versions and listings of claims in the application:

Listing of Claims

1. (Currently amended) A process for the preparation of an olefin homopolymer or copolymer comprising polymerising at least one C₂₋₂₀- α -olefin in slurry phase in the presence of:

(a) a metallocene compound of formula I:



wherein:

Cp is an optionally substituted and/or optionally fused homocyclopentadienyl ligand;

Cp'' is a cyclopentadienyl substituted by at least one C₁₋₂₀-alkyl group;

M is Hf;

each X is -CH₂-Y, wherein Y is C₆₋₂₀-aryl or -SiR'₃;

each R' is C₁₋₂₀-hydrocarbyl ~~or in case of -NR'₂, the two substituents R' can form a ring together with the nitrogen atom wherein they are attached to;~~

and each non-cyclopentadienyl ring moiety can further be substituted; and

(b) an aluminoxane.

2. (Canceled)

3. (Previously presented) A process as claimed in claim 1, wherein Cp is optionally substituted halogen, C₁₋₂₀-alkyl, C₂₋₂₀-alkenyl, C₂₋₂₀-alkynyl, C₃₋₁₂-cycloalkyl, C₆₋₂₀-aryl or C₇₋₂₀-arylalkyl, C₃₋₁₂-heterocycloalkyl which contains 1, 2, 3 or 4

heteroatom(s) in the ring moiety, C₅₋₂₀-heteroaryl, C₁₋₂₀-haloalkyl, -SiR"₃, -OSiR"₃, -SR", -PR"₂ or -NR"₂.

4. (Previously presented) A process as claimed in claim 1, wherein Cp denotes optionally substituted cyclopentadienyl, indenyl, tetrahydroindenyl, benzindenyl or fluorenyl.

5. (Original) A process as claimed in claim 4 wherein Cp denotes optionally substituted cyclopentadienyl.

6. (Previously presented) A process as claimed in claim 1 wherein the Cp and Cp" groups are identical.

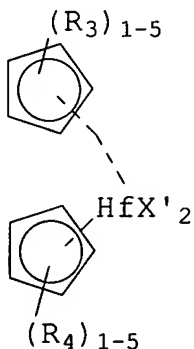
7. (Previously presented) A process as claimed in claim 2, wherein the Cp and Cp" groups carry 1 to 5 C₁₋₆-alkyl substituents.

8. (Canceled)

9. (Previously presented) A process as claimed in claim 1 wherein -CH₂-Y is benzyl or -CH₂-SiR'₃.

10. (Previously presented) A process as claimed in claim 1 wherein said metallocene is of formula (II)

(II)



wherein R₃ is a C₁₋₆-alkyl or siloxy substituent, R₄ is a C₁₋₆-alkyl, and both X' groups are either benzyl (Bz) or CH₂SiR'₃ wherein R' is C₁₋₂₀-hydrocarbyl.

11. (Previously presented) A process as claimed in claim 1 wherein said process is carried out in a loop reactor.

12. (Previously presented) A process as claimed in claim 1 wherein said polymerisation is one stage of a multistage polymerisation.

13. (Previously presented) A process as claimed in claim 12 wherein subsequent to said polymerisation there is a gas phase polymerisation.

14. (Original) A process as claimed in claim 13 wherein the weight ratio of produced polymer in the slurry phase: gas phase is 60:40 to 40:60.

15. (Canceled)

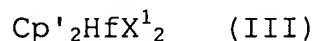
16. (Original) A process as claimed in claim 13 wherein said gas phase polymerization is itself followed by a further gas phase polymerisation stage.

17. (Previously presented) A process as claimed in claim 1 wherein the metallocene is prepolymerised.

18. (Previously presented) A process as claimed in claim 1, wherein said olefin homopolymer or copolymer is an ethylene homopolymer or ethylene copolymer with a C₃₋₆-comonomer.

19. (Previously presented) A process as claimed in claim 1, wherein said metallocene is supported on a carrier.

20. (Previously presented) Metallocene compounds of formula (III)



wherein each Cp' denotes a mono or di C₁₋₆-alkyl-substituted cyclopentadienyl, X¹ is benzyl or CH₂SiR'₃ in which R' is C₁₋₂₀-hydrocarbyl.

21. (Previously presented) A metallocene compound as claimed in claim 20 wherein R' is methyl.

22. (Previously presented) A metallocene compound selected from the group consisting of:

bis(n-butylcyclopentadienyl)Hf dibenzyl,
bis(methylcyclopentadienyl)Hf dibenzyl,
bis(1,2-dimethylcyclopentadienyl)Hf dibenzyl,
bis(n-butylindenyl) Hf dibenzyl,
bis(methylindenyl) Hf dibenzyl,
bis(dimethylindenyl) Hf dibenzyl,
bis(n-propylcyclopentadienyl)Hf dibenzyl,
bis(i-propylcyclopentadienyl)Hf dibenzyl,
bis(n-butylcyclopentadienyl) Hf (CH₂SiMe₃)₂,
bis(n-propylcyclopentadienyl) Hf (CH₂SiMe₃)₂, and
bis(i-propylcyclopentadienyl) Hf (CH₂SiMe₃)₂.

23. (Canceled)

24. (Previously presented) A metallocene compound as claimed in claim 5 wherein Cp is indenyl.

25. (New) A process as claimed in claim 1, wherein $-\text{CH}_2\text{-Y}$ is $-\text{CH}_2\text{-SiR}'_3$.